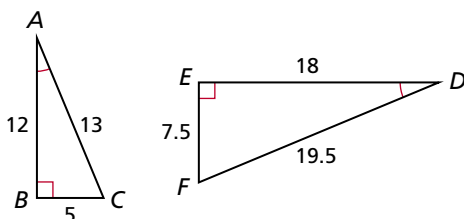


7-2 Ratios in Similar Polygons (pp. 462–467)

EXAMPLE

- Determine whether $\triangle ABC$ and $\triangle DEF$ are similar. If so, write the similarity ratio and a similarity statement.

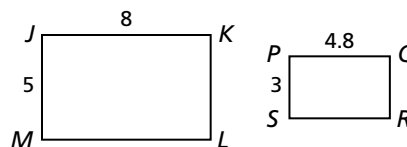


It is given that $\angle A \cong \angle D$ and $\angle B \cong \angle E$.
 $\angle C \cong \angle F$ by the Third Angles Theorem.
 $\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF} = \frac{2}{3}$. Thus the similarity ratio is $\frac{2}{3}$, and $\triangle ABC \sim \triangle DEF$.

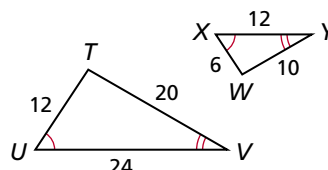
EXERCISES

Determine whether the polygons are similar. If so, write the similarity ratio and a similarity statement.

16. rectangles $JKLM$ and $PQRS$



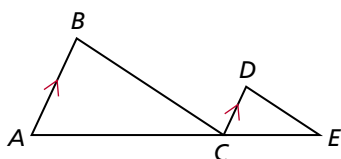
17. $\triangle TUV$ and $\triangle WXY$



7-3 Triangle Similarity: AA, SSS, and SAS (pp. 470–477)

EXAMPLE

- Given: $\overline{AB} \parallel \overline{CD}$, $AB = 2CD$, $AC = 2CE$
 Prove: $\triangle ABC \sim \triangle CDE$

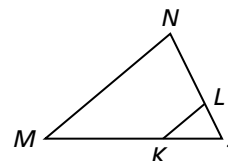


Proof:

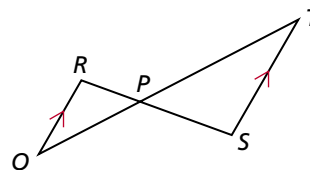
Statements	Reasons
1. $\overline{AB} \parallel \overline{CD}$	1. Given
2. $\angle BAC \cong \angle DCE$	2. Corr. \angle Post.
3. $AB = 2CD$, $AC = 2CE$	3. Given
4. $\frac{AB}{CD} = 2$, $\frac{AC}{CE} = 2$	4. Division Prop.
5. $\frac{AB}{CD} = \frac{AC}{CE}$	5. Trans. Prop. of =
6. $\triangle ABC \sim \triangle CDE$	6. SAS \sim (Steps 2, 5)

EXERCISES

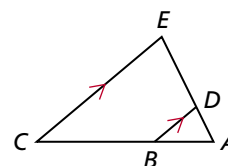
18. Given: $JL = \frac{1}{3}JN$, $JK = \frac{1}{3}JM$
 Prove: $\triangle JKL \sim \triangle JMN$



19. Given: $\overline{QR} \parallel \overline{ST}$
 Prove: $\triangle PQR \sim \triangle PTS$



20. Given: $\overline{BD} \parallel \overline{CE}$
 Prove: $AB(CE) = AC(BD)$



(Hint: After you have proved the triangles similar, look for a proportion using AB , AC , CE , and BD , the lengths of corresponding sides.)